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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,123	07/30/2001	Subhash C. Roy	TRA-040 C1	1388

7590 06/17/2003

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[REDACTED] EXAMINER

WHITMORE, STACY

ART UNIT	PAPER NUMBER
2812	

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/918,123	ROY ET AL.
	Examiner Stacy A Whitmore	Art Unit 2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
 THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 01 April 2003.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 19-35 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 19-35 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 30 July 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) Notice of References Cited (PTO-892)                    4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                    5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                    6) Other:

## DETAILED ACTION

1. Claims 19-35 are presented for examination.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### Claim Objections

3. Claims 19-35 are objected to because of the following informalities:

I In claims 19, 25, and 31, and all dependent claims, the phrase "the instructions executed by the processor" do not have prior mention in the claims, Deleting "the" or otherwise minor corrections to claims providing a prior mentioning of "the instructions" would overcome the objection. Appropriate correction is required.
4. Claims 19, 23-24, 25-27, 31, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Madduri (6,145,100).
5. As for claim 19, Madduri disclosed the invention as claimed, including a method of debugging a processor, said method comprising:

providing information about processor activity in real time [abstract; especially lines 1-3; col. 2, lines 63-67; col. 3, lines 15-26; col. 6, lines 55-58];  
associating the instructions executed by the processor with information about processor activity [col. 3, lines 17-19], wherein said providing information about processor activity includes providing information about substantially every instruction executed by the processor including instructions other than breakpoint instructions [abstract; col. 3, lines 17-19; col. 6, lines 46-58; col. 34, lines 7-12, 19-23, and 35-38]  
[Madduri reads on the claim language substantially every instruction since substantially

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every instruction is not every instruction and the exact number of instructions is therefore is some number less than every instruction].

6. As for claim 25, Madduri disclosed the invention as claimed, including a method of debugging a processor, said method comprising:

providing information about processor activity in real time according to a first clock [abstract; especially lines 1-3; col. 2, lines 63-67; col. 3, lines 15-26; col. 6, lines 55-58]; and

associating the instructions executed by the processor with the information about processor activity according to a second clock [abstract; col. 3, lines 17-19; col. 6, lines 46-58; col. 34, lines 7-12, 19-23, and 35-38].

7. As for claim 31, a method of debugging a processor, said method comprising:

causing the processor to provide information about processor activity in real time [abstract; especially lines 1-3; col. 2, lines 63-67; col. 3, lines 15-26; col. 6, lines 55-58]; and

causing a debugger to associate the instructions executed by the processor with the information about processor activity [abstract; col. 3, lines 17-19; col. 6, lines 46-58; col. 34, lines 7-12, 19-23, and 35-38].

8. As for claim 26, Madduri disclosed the first clock is the processor clock and the second clock is a debugger clock [abstract; especially lines 1-3; col. 2, lines 63-67; col. 3, lines 15-26; col. 6, lines 46-58; col. 34, lines 7-12, 19-23, and 35-38].

9. As for claims 23, 24, 27, and 35, Madduri further disclosed

wherein said providing information is performed by the processor, and said associating the instructions is performed by debugger [abstract; especially lines 1-3; col. 2, lines 63-67; col. 3, lines 15-26; col. 6, lines 55-58; col. 3, lines 17-19]; and wherein said step of providing information about processor activity in real time is performed according to a first clock; and said step of associating the

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instructions executed by the processor with the information about processor activity is performed according to a second clock [abstract; col. 3, lines 17-19; col. 6, lines 46-58; col. 34, lines 7-12, 19-23, and 35-38].

10. Claims 20, 28, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madduri (6,145,100) in view of Segars et al. (6,052,774).

11. As for claims 20, 28, and 32, Madduri disclosed the invention substantially as claimed, including the method of debugging a processor as cited in the rejections of claims 19 and 31 above.

Madduri did not specifically disclose providing information about processor activity includes providing an indication every time the processor stalls that the processor has stalled.

Segars disclosed providing information about processor activity includes providing an indication every time the processor stalls that the processor has stalled [col. 13, especially lines 48-67].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Madduri and Segars because providing information every time the processor stalls would allow for Madduri's method to improve the debug function by only providing debug information when the processor is active, which would improve Madduri's debug system by requiring no output when it is not needed for debug information.

12. Claims 21, 22, 29-30, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madduri (6,145,100) in view of Folwell et al. (5,473,754).

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13. As for claims 21, 22, 29-30, and 33-34, Madduri disclosed the invention substantially as claimed, including the method of debugging a processor as cited in the rejections of claims 19, 25, and 31 above.

Madduri did not specifically disclose

[6] the information about processor activity includes information as to at least one of whether the last instruction executed was a jump, a jump based on contents of a register, a branch taken, or an instruction which encountered an exception, and [7] providing information regarding the status of the processor when certain processor events occur, said certain processor events including at least one of a change in status of an interrupt line, an internal processor exception, and the execution of a jump based on the contents of a register.

Folwell et al. disclosed [6] and [7] [col. 2, table 3, col. 5, table 4, col. 1, line 64 – col. 2, line 3, and col. 8, lines 1-9].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Madduri and Folwell et al. because having information about processor activity as in [6] and [7] would improve the debugging system of Madduri by allowing for the understanding of how program flow discontinues are handled [Folwell et al., col. 2, lines 22-24].

14. Applicant's arguments filed 4/1/03 have been fully considered but they are not persuasive and are moot in view of new grounds of rejection..

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stacy A Whitmore whose telephone number is (703) 305-0565. The examiner can normally be reached on Monday-Thursday, alternate Friday 6:30am - 4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling can be reached on (703) 308-3325. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Stacy A Whitmore

Patent Examiner

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SAW

June 10, 2003

